Meta-analysis of multiple primary prevention trials of cardiovascular events using aspirin.

Several meta-analyses have focused on determination of the effectiveness of aspirin (acetylsalicylic acid) in primary prevention of cardiovascular (CV) events. Despite these data, the role of aspirin in primary prevention continues to be investigated. Nine randomized trials have evaluated the benefits of aspirin for the primary prevention of CV events: the British Doctors' Trial (BMD), the Physicians' Health Study (PHS), the Thrombosis Prevention Trial (TPT), the Hypertension Optimal Treatment (HOT) study, the Primary Prevention Project (PPP), the Women's Health Study (WHS), the Aspirin for Asymptomatic Atherosclerosis Trial (AAAT), the Prevention of Progression of Arterial Disease and Diabetes (POPADAD) trial, and the Japanese Primary Prevention of Atherosclerosis With Aspirin for Diabetes (JPAD) trial. The combined sample consists of about 90,000 subjects divided approximately evenly between those taking aspirin and subjects not taking aspirin or taking placebo. A meta-analysis of these 9 trials assessed 6 CV end points: total coronary heart disease, nonfatal myocardial infarction (MI), total CV events, stroke, CV mortality, and all-cause mortality. No covariate adjustment was performed, and appropriate tests for treatment effect, heterogeneity, and study size bias were applied. The meta-analysis suggested superiority of aspirin for total CV events and nonfatal MI, (p <0.05 for each), with nonsignificant results for decreased risk for stroke, CV mortality, and all-cause mortality. There was no evidence of a statistical bias (p >0.05). In conclusion, aspirin decreased the risk for CV events and nonfatal MI in this large sample. Thus, primary prevention...
with aspirin decreased the risk for total CV events and nonfatal MI, but there were no significant differences in the incidences of stroke, CV mortality, all-cause mortality and total coronary heart disease.

DOI 10.1016/j.amjcard.2011.02.325
Alternate Journal Am. J. Cardiol.
PubMed ID 21481826